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Observations on two mammal species new to the Sultanate of Oman, *Vulpes cana* Blanford, 1877 (Carnivora: Canidae) and *Nycteris thebaica* Geoffroy, 1818 (Chiroptera: Nycteridae)

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Abstract. Blanford's Fox (*Vulpes cana* Blanford, 1877) is recorded for the first time from Oman. Recently recognised as a relict montane species in Israel, this is the first record of the species from the southern part of the Arabian peninsula. The baculum of the species is described and shown to be distinctively different from that of *Vulpes rueppelli*. Also the Slit-faced Bat, *Nycteris thebaica* Geoffroy, 1818, is recorded for the first time from Oman.

Key words. Carnivora, Canidae, *Vulpes cana*, Chiroptera, Nycteridae, *Nycteris thebaica*, Arabian peninsula, Oman.

Vulpes cana Blanford, 1877

1877. *Vulpes cana* Blanford, J. Asiat. Soc. Bengal, 46, 2: 321. Baluchistan.

Two fox specimens which died in His Majesty the Sultan's Breeding Centre at Bait Baraka were recently donated to the Oman Natural History Museum and have been sent to the Harrison Zoological Museum for study by the authors. These animals originated from Jabal Samhan, Dhofar where the original capture from the wild was made in 1985 by Jeremy Usher Smith. The appearance of these foxes when alive in the Breeding Centre had attracted interest and speculation because of their unusual characteristics in comparison with Rueppell's Fox (*Vulpes rueppelli sabaia*) which they were originally thought to be. Their small size and large ears with uniformly greyish sandy backs would accord well at first sight with *V. rueppelli*. However, the pronounced black tip and dorsal crest of the tail and finely pointed muzzle with pronounced black markings on its sides extending downwards from the inner canthus of the eye, reveal their true identity as Blanford's Fox (*Vulpes cana*). In *V. rueppelli* the tail tip is white and the muzzle is less finely pointed and not so clearly marked with black.

Originally described by Blanford (1877) from Baluchistan, and known from Afghanistan, Iran and Turkestan (Pocock, 1941) *V. cana* has recently been recognised as a relict montane species in Israel (Ilany, 1980; Mendelssohn et al., 1987). There are as yet no confirmed reports of the species from the rest of the Arabian peninsula, although the suggestion has frequently been made that the fox photographed, at night, at Wadi Khaytan (19.45' N 41.42' E) in Saudi Arabia by S. Collenette and illustrated in Gasperetti et al. (1985. pl. I, p. 405) may belong to this species. In this flash photograph the distal third of the tail is obscured by a rock and the colour of the ear tips is unclear. It is considered by the authors that an identification based on such evidence will always be unsatisfactory, especially as such a record would con-

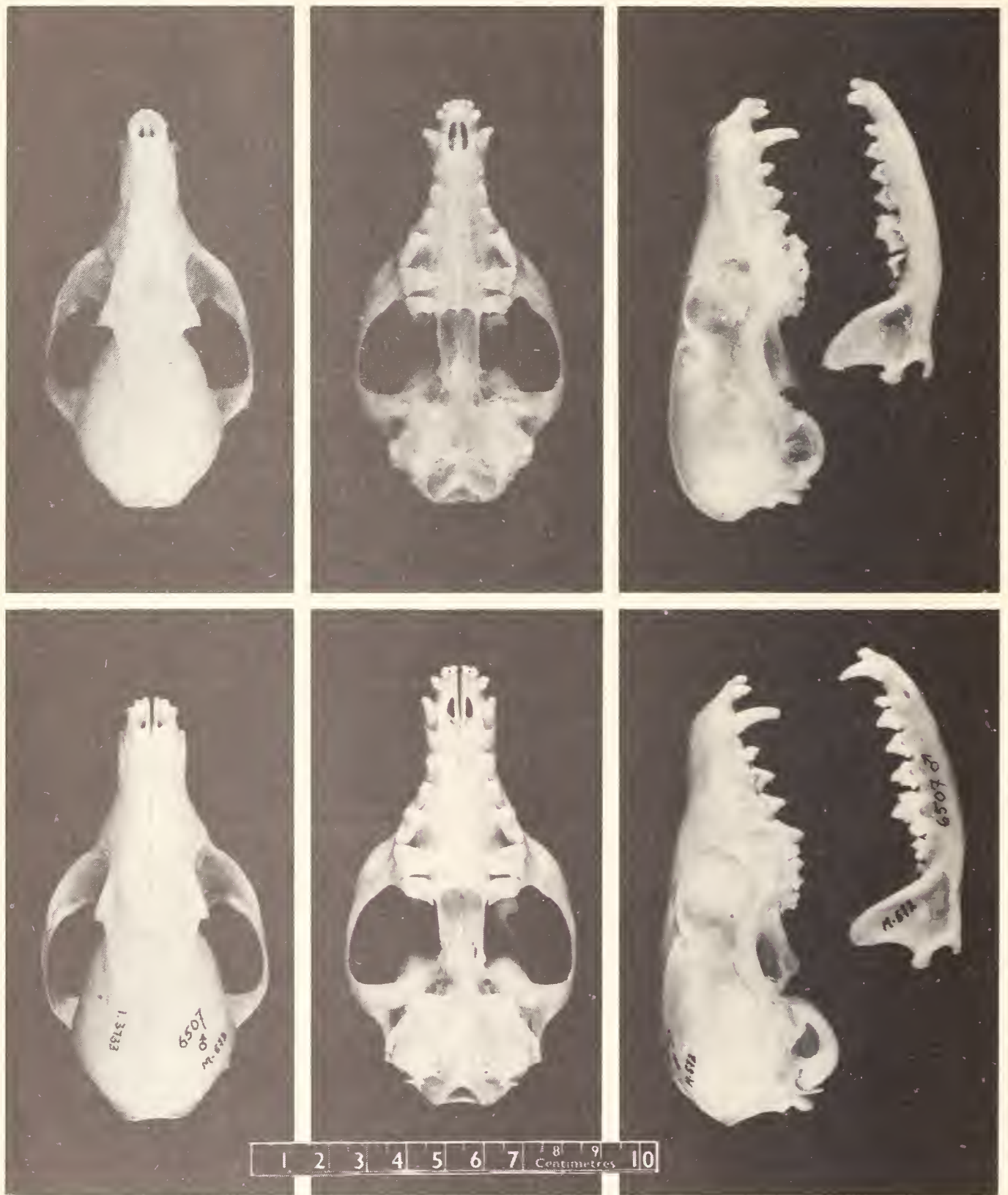


Plate 1: Skulls of two species of Fox. Above: *Vulpes cana* ONHM. 1000, Jabal Samhan, Dhofar, Oman. Below: *Vulpes rueppelli* HZM. 1.3733, 40 km west of Badanah, Saudi Arabia.

stitute the only known evidence of *V. cana* in south-western peninsular Arabia. The occurrence of the species in Saudi Arabia awaits more substantial data.

The unfortunate death of the two specimens in the Breeding Centre has permitted the detailed examination and measurement of the animals concerned, which are one adult male (ONHM 1000) and a young adult female (ONHM 952). The condition of the adult male permitted the preservation of the tail, skull and baculum only. This

animal, captured in April 1985, died in the Centre on 14 January 1988 and was therefore at least 3 years old. The young adult female was born (of the wild caught parents) in the Centre on about 1 April 1987 and died on 13 March 1988.

The external features were compared with the coloration of a flat skin of *V. rueppelli* (HZM. 1.3733, male, 40 km west of Badanah, Saudi Arabia) and with a skin of *V. cana* from Israel (TAU 7-874, parents from En Gedi). It was noted that the blackish mid-dorsal spinal crest which is a marked feature of the specimen from Israel is less evident in the example from Dhofar, although the black tail crest and tip is equally developed. This feature could be individual variation or denote a subspecific difference between these remote and isolated populations.

The skull of *V. cana* is notably small and delicate and although there is some overlap in size with *V. rueppelli* it is distinguishable from that species by the very delicate and relatively slender rostral region (Plate 1). The braincase is small and narrow anteriorly and the palate strikingly narrow. More material is clearly needed to clarify the cranial characters in relation to *V. rueppelli* and to study geographical variation in the region. The available external and cranial measurements, in mm., of the two *V. cana* (ONHM 1000 & ONHM 952) from Oman and an adult male (BM. 19.4.7.22) from Turbat, Baluchistan, included for comparative purposes, are given below in respective order: Total length 760, 735, —; tail 360, 350, —; forearm 60, 60, —; hind foot 101, 97, —; ear 80, 76, —; greatest length of skull 99.8, 97.7, 96.3; condylobasal length 96.4, 93.5, 91.3; zygomatic breadth 51.9, 51.0, —; breadth of braincase 36.8, 34.3, 35.1; interorbital constriction 17.5, 17.1, 17.4; maxillary cheekteeth C-M2 44.7, 42.8, 43.8; mandibular cheekteeth c-m3 47.7, 46.9, 48.3; mandible 74.9, 73.0, 71.2; rostral width above P1 14.0, 13.2, 13.5.



Plate 2: Dorsal (on left), lateral (on right) view of bacula. Left, in each pair: *Vulpes cana* ONHM. 1000, Jabal Samhan, Oman. Right, in each pair: *Vulpes rueppelli* HZM. 1.3733, 40 km west of Badanah, Saudi Arabia. Scale = mm & cm.

It may be noted that the measurements of *V. cana* from Oman slightly exceed those of 6 specimens from Israel given by Mendelssohn et al. (1987) and certainly suggest that the Dhofar population may be subspecifically different. They are however marginally larger than the Baluchistan specimen, see also Pocock (1941).

The baculum of *V. rueppelli sabaea* was figured by Harrison (1968). The baculum of the adult male ONHM 1000 from Dhofar is strikingly different (Plate 2). Although of approximately the same length the bone is much broader and with an expanded, bulbous tip quite unlike the delicate pointed tip of *V. rueppelli*. Whereas the tip of *V. rueppelli* is slightly curved ventrally, in *V. cana* the tip of the bone has a pronounced upward curvature. A deep ventral groove is present in both species, but in *V. cana* the basal part of the bone is less narrowed and the dorsal aspect of the base lacks the pronounced keel-like ridge present in *V. rueppelli*. Although only one example of each species is available for comparison, the differences are so distinctive that it seems most unlikely to be a matter of individual variation, especially as the bacula of Carnivora often show marked specific characteristics. The measurements of the bone in ONHM 1000 are, length 41.5 mm; maximal width of shaft 4.4 mm and width of tip 4.6 mm.

Blanford's Fox inhabits a habitat different from *V. rueppelli*, favouring rocky terrain and steep cliffs in Israel (Mendelssohn et al. 1987). This accords well with the terrain of Jabal Samhan and differs from the favoured habitat of *V. rueppelli* in Oman, which is sandy desert. The discovery of this species in Oman is of great interest and further research is needed to determine its status and distribution there.

Nycteris thebaica adana (Andersen, 1912)

1912. *Petalia thebaica adana* Andersen, Ann. Mag. nat. Hist. 8 (10): 548. Mybar, near Aden, South Arabia.

A Slit-faced Bat of this species, which was received by the Oman Natural History Museum in 1986 is the first specimen from the Sultanate. It is also the most easterly record of this essentially African species in the Arabian peninsula, being formerly known from South Yemen, North Yemen, Saudi Arabia, Sinai and Israel (Harrison, 1964). It was obtained by Mohammed F. M. Qahtan and R. P. Whitcombe.

The specimen (ONHM 586) originated from a small cave used as a shelter for livestock at Jifjif, Ginot area, Wadi Sahanawt, north-east of Salalah (17.08.5' N 54.10.5' E). The locality was visited by one of us (D. L. H.) on 11 June 1987 when a large colony of these bats was present in the cave and in view of the interest of this newly discovered species three specimens were taken for study. The pallid drab coloration of these bats places them in the race *Nycteris thebaica adana*. The specimens conform in size with material of this race from South Yemen, the forearm in the sample ranging from 43.3–47.8 mm and the greatest length of skull 18.6–19.3 mm.

This record represents yet another African element to add to the already impressive list from the hills of Dhofar. Together with the Asiatic Blanford's Fox also noted here for the first time, these new additions further emphasise the unique nature of the fauna of Dhofar and the urgent need for conservation of its threatened habitat.

Zusammenfassung

Das Vorkommen des Afghanfuchses (*Vulpes cana*) wird erstmals für Oman belegt. Die Art war jüngst als Montanrelikt in Israel festgestellt worden; dies ist nun der erste Fund im Südteil der Arabischen Halbinsel. Das Baculum der Art wird beschrieben, es ist deutlich von dem des Sandfuchses (*Vulpes rueppelli*) zu unterscheiden. Ein weiterer Neunachweis für Oman betrifft die Fledermaus *Nycteris thebaica*.

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